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Features' Evaluation of Goods, Services and E-Services; Electronic Service Characteristics Exploration

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Abstract

The term service has several meanings depending on the field of expertise and the viewpoint it is considered from. Although the exportation of services is not new the degree to which information and communications technologies are facilitating the rapid acceleration of service exportation are new. Today, trade in services is one of the hot issues on international trade and the world economy. Numerous enterprises have already moved or planning to move their traditional services and goods to the electronic environment. In this regard, it is vital to know the characteristics of each type of products. This research is going to explore the characteristics of electronic services and then evaluating the features of goods, services and e-services.

Keywords: E-service; Charactristics; Feature; Good; Homogeneous; Inseparability; Intangibility; Interaction; Ownership; Perishability; Process; Product; Service

1. Introduction

In today's intensive competitive environments the design and delivery of innovative, flexible, and effective services is of paramount importance for business success [1, 2]. The term "service" has many different meanings depending on the field of expertise and the perspective it is considered from [3].

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During the last ten years a large amount of services have been launched to electronic markets and the same kind of development will certainly continue. In many cases traditional services have simply moved to electronic environment and human work is partly substituted by computers and software [4, 5]. This was predicted to revolutionize the way of doing marketing in a short period of time. However, the development has been slow, but the trend towards e-services is clear. As Lovelock et al. [6] point out Internet Revolution is still in its early stages.

Electronic services are likely to strengthen the competitiveness of organizations as these technologies may change the relationship with clients by creating a stronger connection between organizations and its customers [7]. Although in terms of electronic services, there is no unique definition and scholars have been viewed it from various perspectives, thus they define e-service in a variety of ways, in this research E-services known as services which are delivered with the mediation of information technology [8].

Increases in labor costs and innovations in technology have contributed to the growth of Internet-based e-service [9]. Although e-service would reduce the cost of any transaction it can adjust the customer desires by movement from time and location based activities to nonlocational and nontemporal behaviours [10]. However a system can improve the job performance but sometimes users are not eager to use the systems [11, 12].

The main distinguish between electronic service and traditional services are the channels they use to deliver their services, further they interact with their users with different methods. In real world, customers need to go to the companies or store physically to receive the firms services, while they are able to get e-services via the electronic channels (Internet, PDA, Mobile phone …) [7, 13]. E-service initiatives have been proven to deliver significant benefits, both for suppliers of electronic services (public authorities and organizations) and for the public, to whom services are addressed [7]. This paper is going to present the characteristics of electronic service and then evaluate the feature of goods, services and e-services based on the introduced characteristics.

2. Services and electronic services

The boom around service characteristics started in the late 1970's, but after the boom period very little has happened in this area. Recently, some scholars (e.g., [14]; [15]; [16]; [17]) have presented justified criticism against some of the earlier statements.

The starting point of our article is to revisit the rather early article of [18]. In that article he defined services as follows:

"Service, actually a service-like marketed entity, is a benefit providing object of transaction that is a more or less abstract activity or process of activities essentially produced, marketed and consumed in a simultaneous interaction."

More recently some other service scholars have also adopted the interactive element in their definitions, e.g., [19] defines services "as an act or performance offered by one party to another (…)". Also Grönroos [20] stresses process nature and interaction between customers and service providers. Moreover, Liljander and Strandvik [21] divide services to episodic and relational ones, where the latter comprises the interactive nature of services.

3. Electronic services' characteristics

In this section, we continued by discussing the commonly referred service characteristics from the electronic service perspective. These characteristics which typically are connected to services have been extracted from the previous studies are listed bellows:

- Intangibility (abstract naturalness) [17, 18, 22, 23]
- Process nature [17, 18]
- Heterogeneity [22-24]
- Inseparability which is the simultaneousness of consumption, production and marketing [17, 18, 22, 23]
- Perishability [22-24]
- Ownership [14, 17, 23, 24]
- Interactive nature [17, 18, 21] call the latter relational nature.
- Self-service [25, 26]
- Non-rival [23, 27]

3.1. Intangibility

Intangibility has been defined as "impalpable and not corporeal" [28] and "that which cannot be easily defined, formulated or grasped mentally" [29]. Moreover, intangibility is "(a) that which cannot be touched or seen, (b) that which is difficult to define or describe clearly, and (c) that which cannot be easily grasped mentally" [30].

Previous studies have viewed intangibility as a single aspect associated with the lack of physical evidence [31, 32] or as a two dimensional constructs which were lack of generality and physical evidence [33]. Whereas, new study recommends that three dimensions are encompassed to intangibility: generality, physical intangibility and mental intangibility [34].

According to Laroche, et al [35], physical dimension "represents the extent to which a good cannot be touched or seen; it is inaccessible to the senses and lacks a physical presence and generality dimension refers to the customer's difficulty in precisely defining or describing a particular good and furthermore, mental intangibility reflects the fact that a good can be physically tangible, but difficult to grasp mentally". In brief, since services are all performance rather than objects so they cannot be seen, touched or evaluated, consequently they are intangible.

E-services which have been studied by Järvinen and Lehtinen [17] proved to be intangible in their nature. In addition, Hofacker, et al [23] stated that electronic services are less tangible than the similar services those delivered in person. In several cases, the tangibility of e-services is increased such as food take away service of real estate service that become more tangible in the second step where a physical presence is needed [17]. Against, if users utilize the e-services only for choosing the objects, the electronic services remain intangible, for instance, customers may use the real estate e-services to get the information such as photos, texts and location maps [17].

More to the point, e-banking, e-insurance and financial advice services can be considered as more tangible services by means of various documents like agreements and policies. In conclude, electronic services that (a) constantly delivered services like insurance, (b) involved processing goods like package delivery, (c) contained significant symbolic component such as plane reservation, (4) used specific delivery device such as kiosk, DVD, PC and (5) used particular delivery format like-mail, text message, web page, voice and video, offer fundamental role to tangibility [23].

Although some tangibles like personnel, equipments, physical facilities and communication materials have been identified as an important dimensions of service quality by some scholars such as [36], but in case of electronic services they are all invisible to customers except communication materials. Since one of the key problems of the marketers associated with intangibility is that they have nothing to show their customers.

Whereas, e-services provide evidence of services by utilizing the web based delivery, therefore, it can overcome some of the provided challenges in terms of intangibility. For instance, an ski resort as provided the latest video of environment and utilized web cams to show the current snow condition to supply tangible evidence of resort (www.vail.com). Moreover, e-service are able to make tangible the intangible through additional evidence preparation of service delivery like information updates frequency, automated confirmation of order and delivery, server speed, Web site appearance, accuracy of information and ease of navigation [37].

3.2. Process nature

Mohr and Bitner [38] has been described services as a process view point that is "the manner in which the outcome is transferred to the customer". Accordingly, Tax and Stuart [39] claimed that a service is "a series of interactions between participants, processes, and physical elements". Likewise, Grönroos [40] clarified that process is one of the key characteristics of services. On the other hand, users interaction with service provider's production resources can produce services [41]. Consequently, the process nature of services cannot be doubted [41] and electronic services as well.

Customers have to follow a various process to get the electronic services such as e-financial, e-insurance, e-banking, e-ticketing, e-booking, real estate e-services, packaged tour e-services and food take away e-services [17]. Finally, service process can be explained as a series of activities and steps which are flowed and interacted with the needed resources for production and delivery of the service outcome [42]. It should be noted that, those processes contains some before stated procedures when utilizing electronic services, otherwise the system does not function and the expected result remains unseen [17].

3.3. Homogeneous (opposite Heterogeneity)

Heterogeneity is presented by Hofacker, et al [23] as "variability in the quality and essence of a particular service". Likewise, heterogeneity is initially based on personnel performance [17], but it has been mentioned in [43] that customers are not precisely similar and they have unique demands. Additionally, the contribution of other customers may influence on the performance [14]. Variations and mistakes will occur in real time when service is provided in person [37]. Actually, regarding the e-service's production, it is more homogenous than other usual physical goods [23].

Electronic machines do not have the ability to treat each user individually and information technology systems cannot be developed variable as traditional services meet [17]. Although electronic services are differentiated and offered to a variety of segments, they consist of highly standardized elements and do not permit variation caused by staff [44]. Thus, heterogeneity is nearly vanished from electronic services [17].

Rather than study heterogeneity in this sense, e-services researchers have focused on the impact of variability due to consumer participation [45], on personalization and customization [46], and on consumer heterogeneity in preferences for experience goods [47]. Variability is also added by the consumer's software configurations and preferences and hardware environment [23].

3.4. Inseparability

Regarding the physical separation of provider and user, electronic services are highly flexible because place is not a property attributable to networked software [48]. Following example may shows that e-service flexibility can make it more separable than physical products. A music as an experimental product can be recorded and sell on the website. It can be found out that the production of service which is performing the song and the consumption of service that is listening to the song are apart in terms of time and space [23].

It is clear that the particular song can be copied and stored on different media and plays on various systems. The concepts of service encounter and interaction are linked to the inseparability of marketing, consumption and production. Consideration of inseparability as a criterion results in the deviation of electronic services from each other. For instance, flight ticket e-services, hotel booking e-services, food take away e-services and packaged tour e-services are inseparable because the e-service is consumed and produced while customers are ordering or canceling the product through the suggested route. Furthermore, an implicit and explicit marketing can be conducted through this connection. It should be noted that the core service (using the ticket or delivering the service) itself is consumed later [17].

On the other hand, e-banking is essentially produced and marketed simultaneously, but only partially consumed. For example, clients inter their bills through the bank's web site before the due date however bank will pay it automatically on the due date [17]. Although numerous banking transactions can be made in time basis, e-loan application should be forwarded in advance. It is understood that even the same group of e-services may include distinguish characteristics.

From another viewpoint, as it is mentioned by Järvinen and Lehtinen [17], financial advice and real estate e-services may or may not be inseparable because recommendation requested by clients is not often provided interactively, instead it may takes a couple of hours or even days to provide the information needed [17]. Nevertheless, the point is that these firms only handle the particular issues individually and then usually give basic information automatically and in standardized form on the screen, consequently, part of the electronic service might be considered inseparable. Therefore, it is concluded that inseparability issue can be argued in the case of electronic services [17].

3.5. Perishability

According to Lovelock [49], perishability is relatively stand for production capacity and not service itself. In other words, it refer to the inability of services that cannot be stored, resold, saved or returned [17]. Electronic services are not necessarily perishable [16] because e-services as algorithms can be stored by both enterprises (on servers' disks) and customers (DVDs or other media) [23].

According to Lovelock and Gummesson [14] call information based services give the ability of replying, recording and reusing to customers. Unlike traditional services and products, e-services contain binary numbers that delivered by software and can be consumed again and again without being depleted. For instance, the song that mentioned earlier can be downloaded and copied by a user and given to someone else so it will be still retained. Whilst and as an opposite problem, since management cannot prevent users from storing, copying and exchanging [50], e-services can be easily inventoried [16, 50]. Therefore, it can be claimed that e-services (information based services) destroy perishability [14]. Consequently, e-service capabilities can overcome to the perishability issues [37].

3.6. Non-ownership

In service environment, the ownership of services are not transfer so as Lovelock and Gummesson [14] proposed that services can be uniquely identified by non-ownership. Again, Järvinen and Lehtinen [17] also declared that the ownership is not changed in connection with services. Besides, both online services and offline services are non-ownership [23, 27]. Lovelock and Gummesson [14] identified usage, access and rental of services as non-ownership matters. In fact, in order to access and use the system, users rent the right to contribute in the particular network like banking, utilities, insurance, telecommunication or specified information services [17].

3.7. Interaction

In electronic services studies, interaction refers to the interplay between firms and customers. Now days, personal interaction has been eliminated by firms and users are only interacting with electronic interfaces (such as personal computers) which is called automated interaction [17]. Additionally, Bitner, et al [51] suggested that "technology is eliminating interpersonal service encounters altogether". For example, e-ticketing (such as flights and trains) and e-booking (like hotels) represent automated interaction.

On the other hand, some e-service are linked to the human interactions like e-insurance, e-banking and e-government service that sometimes needs human interaction even not often in time basis [17]. It is emphasized that in e-services, human factors play lesser role compare to the in person services [6]. However, personal interaction and human work are significant to recover the service and to solve the technical problems in case of system failure [17].

3.8. Self-service

E-services are predominately self-service, whether they are delivered via a mobile device, Web page on a personal computer or a kiosk [25]. Rowley [26] defined self-service as "service in which there is no direct assistance from or interaction with a human service agent". This definition might apply to retailing through car park ticketing through pay stations, vending machines and eating outlets in which customers select and carry their own food and drink [26].

Therefore, with self-service, there is no service agent to help in the learning of the new script [52]. In electronic service customers must learn from the interface, or from more experienced family and friends [26].

3.9. Non-rival

Asvanund, et al. [27] articulated that electronic services are non-rival in demand which means that "consumption can occur simultaneously without reducing the other consumer's utility". In brief, e-services offer services that previously performed by humans and they embody the require satisfactions of traditional services, but employ a unique technology.

4. Evaluation of goods, services and e-services' feature

Hofacker et. al [23] distinguished the features of goods, traditional services and electronic services (see Table 1).

Table 1: Distinguishing Features of Goods, E-Services and Services

Characteristics	Good	Services	E-Services
Tangibility	Tangible	Intangible	Intangible
Can be Inventoried	Yes	No	Yes
Separable Consumption	Yes	No (Inseparable)	Yes
Can be Patented	Yes	Na	Yes
Homogeneous	Yes	No (Heterogeneous)	Yes
Easy to Prize	Yes	No (Hard to Prize)	No (Hard to Prize)
Can be Copied	No	No	Yes
Can be Shared	No	No	Yes
Use Equals Consumption	Yes	Yes	No
Based on Atoms	Yes	Yes	No (Based on Bits)

Based on the presented characteristics of e-service, the evaluation has been done between traditional services, goods and e-services which is shown in Table 2.

Table 2: Evaluation of Goods, Services and E-Services' characteristics

Characteristics	Good	Services	E-Services
Intangible	No	Yes	Yes
Process Nature	No	Yes	Yes
Heterogeneity	No	Yes	No
Inseparable	No	Yes	No
Perishable	No	Yes	No (not necessarily)
Ownership	Yes	Non-ownership	Non-ownership
Interactive Nature	No	Yes	Yes
Self-service	No	No	Yes
Non-rival	No	No	Yes

5. Conclusion

Except for construction services, all of the dynamic services can easily be provided electronically. In this article we discussed characteristics of goods, services and e-services, and evaluated empirically, how the introduced nine basic service characteristics, Intangible, Process Nature, Heterogeneity, Inseparable, Perishability, Ownership, Interactive Nature, Self-service, Non-rival fit to goods, services and e-services.

It has been found out that electronic services are not tangible but they are process nature. Furthermore, e-services are homogeneous and separable. Although they are not necessarily perishable, they do not transfer the ownership of the service. Electronic services are interactive nature and most of the interactions are done automatically. Moreover, they are self-service and non-rival. For future work, the characteristics of different e-service applications can be evacuated and the influence of their characteristics on user intention to utilize e-services might be examined.

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